REMARKS

Claims 10-19 remain in this application.

For the convenience of the examiner, a copy of US 5,404,753 is enclosed. Mention of this patent has been added to page 6 of the specification.

DOUBLE PATENTING CONSIDERATIONS

In the Office action, the examiner, rejected claim 10 under the judicially created doctrine of double patenting. This rejection is traversed for the following reasons.

Claim 1 of US 5,948,975 includes a recitation that the measuring conduit includes a bypass flow connection, whereas claim 10 of this application includes no such bypass connection. This alone is sufficient reason that a person skilled in the art would not consider these two claims unpatentable over each other.

Further, claim 10 of this application includes a recitation that the two surfaces of the measuring conduit, which extend transversely to the measuring element, are positioned so that they approach each other in the direction of the flow in the measurement conduit. This relationship can best be seen in figure 1 of the drawing where surfaces 37 and 38 are shown to converge towards their ends closest to the deflection conduit. This convergence is not claimed in claim 1 of US 5,948,975, and so this is another point of difference between the two claims, and adds further reason why claim 10 of this application should not stand rejected as double patenting over claim 1 of US 5,948,975.

PRIOR ART CONSIDERATIONS

Claims 10-18 were rejected under 35 USC 102 as anticipated by Tank et al. This rejection is traversed for the following reasons.

Claim 10 recites that the surfaces which extend transversely to the measurement element, surfaces 37 and 38 as shown in figure 1 are transverse to the measuring element, approach each other in a direction of the flow in the measuring conduit. In other words, surfaces 37 and 38, as shown in figure 1 of the disclosure, are positioned so that their edges closest to the deflecting conduit are closer together than are the edges of surfaces 37, 38 at the entrance to the measuring conduit. This is different from the structure of Tank et al, because in Tank et al the surfaces which are equivalent to 37, 38 are parallel to each other and do not converge as recited in claim 10.

This may sound like a small distinction, but this arrangement provides an especially advantageous air flow around the measuring element. As recited by the specification at page 8, lines 9-14, "The tapering of the measurement conduit 30 provided in the flow direction 43 or the constant reduction of the flow cross section from the inlet 32 to the outlet 33 has the effect that an accelerated flow is produced in the vicinity of the measurement element 21, which produces a virtually uninterrupted, uniform parallel flow in the vicinity of the measurement element 21."

Further, this difference permits an easier molding of the parts which make up the device. As stated at page 8, line 15 through page 9, line 12, "The inclined embodiment of the faces 37, 38 according to the invention, which extends perpendicular to the surface 24 of the measurement element 21, as shown in Fig. 2, produces a base part 45 that contains the side face 39 and the faces 37, 38 and a cover part 46 that is connected to the base part 45, for example in a detachable manner, wherein the thickness of the wall of the base part 45 is constant in the vicinity of the side face 39 and the thickness of the wall of the cover part 46 is constant in the vicinity of the side face 40. With the provided manufacture of the base part 45 and the cover part 46 by means of plastic injection molding, in addition to the simpler manufacture with the injection molding, the constant thickness of the walls in the vicinity of the side faces 39,

40 produces the advantage that a uniform cooling speed can be set, which assures the maintenance of a precise flatness of the faces 39 and 40. As shown in Fig. 1, the base part 45 also has, for example, a number of channel-shaped recesses 48, which are provided at least on the edge region of the measurement part 17 and in which the cover part 46 can engage by means of projections in order, for example, to lock the cover part 46 onto the base part 45 in detent fashion. The shaping of the recesses 48, particularly in the vicinity of the tapered measurement conduit 30, permits the embodiment of a uniform wall thickness, which during manufacture leads to a uniform cooling speed so that hollows or distortions in the faces 37, 38 of the measurement conduit 30 can likewise be prevented." Thus, as can be appreciated, having the surfaces 37, 38 "tapered" toward each other makes the molding of the parts easier as the base part has the particular shape molded into it, and the covering wall 46 is a more or less flat piece, so that essentially all of the special shaping of the parts which go to make up the measuring, deflection, and outlet conduits is provided within the base part.

Others of the claims, in addition to claim 10, bring out differences which are not provided in the references, and for their own reasons should be considered allowable. For example, claim 19 recites recesses in a particular fashion. The examiner has added the reference to Zurek et al to show these differences. While Zurek et al does show a recess at 14, this recess is not the same as recited in claim 19. As mentioned in the portion of the specification quoted above, the recesses recited in claim 19 provide special advantages in the manufacture of the parts which make up the measuring conduit. By providing a constant wall thickness, the recesses 48 provide means by which the cooling of that part, after molding, is made more even and thus it becomes possible to provide smoother surfaces for the measuring conduit, as compared to any of the prior art.

Claim 11 adds to the base claim 10 that there are two sides of the measuring conduit which are parallel to a surface of the measuring element. This structure is not shown by Tank et al. In Tank et al, there are surfaces 39, 40 of the measuring conduit which are the closest surfaces to being parallel to the measuring element, but they are purposefully not parallel to any surface of the measuring element, and thus it is not proper, nor was it proper in the first Office action, to reject claim 11 under 35 USC 102 as anticipated by Tank et al.

Reconsideration and allowance of the claims are courteously solicited.

Respectfully submitted,

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MARKED-UP VERSION OF THE SPECIFICATION

The paragraph which extend from page 5, line 17 through page 6, line 20 has been amended as follows:

-- The device 1 is composed, for example, in one piece out of the measurement part 17, a support part 18, and a securing part 19, and is preferably made of plastic using the plastic injection molding technique. A measurement element 21 is embodied for example in the form of a so-called micromechanical component and has a plate-shaped, silicon-based support body 20 with an etched-out, membrane-shaped sensor region with an extremely slight thickness and a number of likewise etched-out resistive films. These resistive films constitute at least one temperature-dependent measurement resistor and for example one heating resistor. Preferably, the heating resistor is disposed in the center of the membrane and, with the aid of a temperature sensor, is regulated to an **over temperature.** [overtemperature.] Upstream and downstream of the heating region constituted by the heating resistor, two measurement resistors are disposed symmetrically to the heating region. A measurement element of this kind is known from the SAE Paper 950433 mentioned above, as well as from DE-OS 42 19 454, **and US 5,404,753, the disclosure of which is** [wherein the disclosures of both documents are] expressly intended to be a component of the current patent application. The support body 20 of the measurement element 21 is accommodated flush in a recess in a plate-shaped mount comprised, for example, of metal, and is secured there, for example, by means of adhesive. The individual resistive films of the measurement element 21 are electrically connected by means of connecting lines 26 that extend inside the device 1 to an electronic evaluation circuit 27 depicted with dashed lines in Figs. 1 and 3, which includes, for example, a bridge-like resistive measurement circuit.

With a plug connection 28 provided on the securing part 19, the electrical signals produced by the evaluation circuit 27 can also be supplied, for example, to another electronic control device for evaluation. --

The paragraph which extend from page 6, line 21 through page 7, line 25 has been amended as follows:

-- As depicted in Figs. 1 and 2, the measurement part 17 of the device 1 has a block-shaped form and a measurement conduit 30 that extends along a measurement conduit axis 12 that extends centrally in the measurement conduit 30 from an inlet 32 with a rectangular cross section to an outlet 33 that likewise has a rectangular cross section. The device 1 is installed in the intake line 9, preferably with the measurement conduit axis 12 parallel to the center axis 11. However, it is also possible to install the device 1 with an oblique installation position, rotated around the plug axis 10. In addition to or instead of the oblique installation position, it is also conceivable to install the device 1 in a tilted installation position, inclined around the center axis 11. The measurement conduit 30 transitions downstream into an S-shaped deflection conduit 31. The measurement conduit 30 is defined by a top face 37, which is farther from the center axis 11 and is disposed above in Figs. 1 and 3, and by a bottom face 38, which is closer to the center axis 11 and is disposed below in Figs. 1 and 3, as well as by two side faces 39, 40, wherein only one of the side faces extending parallel to the plane of the drawing is visible in Figs. 1 and 3, namely the side face 39. The top face 37 and the bottom face 38 extend toward each other in the direction 43 of the medium flowing in the measurement conduit 30 toward the measurement element 21, and end with a narrowest cross section at a narrowest point 36 at the outlet 33 of the measurement conduit 30, which at the same time represents an inlet 34 of the deflection conduit 31. The measurement element 21 with the resistive films has a surface 24 exposed to the

flow 43 in the measurement conduit 30, which is flush with a surface 25 of the mount 23. The faces 37, 38 of the measurement conduit 30 [, which] extend in **planes which are** [a plane] lateral to, or essentially perpendicular to the surface 24 of the plate-shaped measurement element 21, **and by means of their extending toward each other as mentioned above** [thereby] enclose an inclination angle α, which is preferably approx. 8°. --

MARKED-UP VERSION OF THE CLAIMS

Claims 10, 11 and 18 have been amended as follows:

10. (Amended) A device for measuring the mass of a flowing medium, in an intake air mass of internal combustion engines, comprising a temperature-dependent measurement element that the flowing medium circulates around, said measurement element is disposed in a measurement conduit extending in the device from an inlet to an outlet, said measurement conduit is adjoined by a deflection conduit, wherein the measurement conduit has two faces **(37, 38) which extend transversely to the measurement element (27), and** that **faces (37, 38)** approach each other in a direction of the flow in the measurement conduit, **[**the faces (37, 38) of**]** the measurement conduit (30)**[**,**]** **having two additional faces (39, 40)** which are disposed lateral to a surface (24) **of** **[**fixed by**]** the measurement element (21)**[**, are embodied in an inclined fashion and approach each other in the flow direction (43) of the medium in the measurement conduit (30)**]**.

11. (Amended) The device according to claim 10, in which the flow cross section of the measurement conduit (30) is **generally** rectangular and **the additional** **[**has two**]** faces (39, 40) **extend** [extending] parallel to the surface (24) of the measurement element (21).

18. (Amended) The device according to claim 14, in which the thickness of the wall of the base part (45) and the cover part (46) is constant in the vicinity of **the additional** **[**side**]** faces (39, 40) **which** **[**that**]** extend parallel to the surface (24) of the measurement element (21).